

**UNITED STATES DISTRICT COURT  
WESTERN DISTRICT OF TEXAS  
SAN ANTONIO DIVISION**

WAVE NEUROSCIENCE, INC.,

Plaintiff,

vs.

BRAIN FREQUENCY LLC,

Defendant.

Civil Action No. 5:23-cv-00626-XR

**Demand for Jury Trial**

**DEFENDANT BRAIN FREQUENCY LLC'S ANSWER  
TO PLAINTIFF'S SECOND AMENDED COMPLAINT**

Defendant Brain Frequency LLC (“Brain Frequency” or “Defendant”) through its undersigned counsel, hereby answers the Second Amended Complaint for Patent Infringement (Dkt. 10) (“Second Amended Complaint”) filed by Plaintiff Wave Neuroscience, Inc. (“Wave” or “Plaintiff”) complains and alleges as follows against defendant Brain Frequency, LLC:

**NATURE OF ACTION**

1. Admitted that this purports to be an action for patent infringement, but denied as to the remaining allegations in Paragraph 1 of the Second Amended Complaint.<sup>1</sup>

**THE PARTIES**

2. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

3. Admitted that Brain Frequency is a Texas limited liability company but denied as to the remaining allegations.

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<sup>1</sup> Each of the numbered paragraphs herein correspond to the same paragraph in Plaintiff's Second Amended Complaint.

**JURISDICTION AND VENUE**

4. Admitted.

5. Brain Frequency does not contest that it is subject to personal jurisdiction in the Western District of Texas, solely for purposes of this action. Brain Frequency, however, denies that it has committed acts of infringement within the Western District of Texas, or any other District within the State of Texas.

6. Brain Frequency does not contest venue in the Western District of Texas, solely for purposes of this action. Brain Frequency, however, denies that it has committed acts of infringement within the Western District of Texas, or any other District within the State of Texas.

7. Admitted that Brain Frequency offers services in this District, but denied as to the remaining allegations.

**FACTUAL ALLEGATIONS COMMON TO ALL CLAIMS FOR RELIEF**

**Wave Neuroscience's Business**

8. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

9. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

10. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

11. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

12. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

13. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

14. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

15. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

16. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

17. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

18. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

**The Asserted Patents**

19. Admitted.

20. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

21. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

22. Brain Frequency admits that United States Patent No. 8,926,490 is entitled “SYSTEMS AND METHODS FOR DEPRESSION TREATMENT USING NEURO-EEG SYNCHRONIZATION THERAPY” (the “‘490 Patent”) and appears to have been issued on Jan. 6, 2015, but denies that the patent is valid.

23. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

24. Brain Frequency admits that United States Patent No. 10,029,111 is entitled “RTMS AT HARMONICS OF BIOLOGICAL SIGNALS” (the “‘111 Patent”) and appears to have been issued on July 24, 2018, but denies that the patent is valid.

25. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

26. Brain Frequency admits that United States Patent No. 8,465,408 is entitled “SYSTEMS AND METHODS FOR MODULATING THE ELECTRICAL ACTIVITY OF A BRAIN USING NEURO-EEG SYNCHRONIZATION THERAPY” (the “‘408 Patent”) and appears to have been issued on June 18, 2013, but denies that the patent is valid.

27. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

28. Brain Frequency admits that United States Patent No. 8,870,737 is entitled “SYSTEMS AND METHODS FOR NEURO-EEG SYNCHRONIZATION THERAPY” (the “‘737 Patent”) and appears to have been issued on October 28, 2014, but denies that the patent is valid.

29. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

30. Admitted.

31. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

32. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

#### **ALLEGED INFRINGING CONDUCT**

33. Denied.

34. Admitted that Shannon Malish, a licensed clinical social worker, developed Brain Frequency’s proprietary treatment methods, but denies that such methods infringe.

35. Admitted that Brain Frequency uses some FDA approved devices, but denied as to the remaining allegations.

36. Brain Frequency admits that it utilizes a proprietary method involving Transcranial Magnetic Stimulation (“TMS”) which can be described as “gentle, short, magnetic pulses,” but denies the remaining allegations.

37. Denied.

38. Denied.

39. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

40. Denied.

41. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

42. Denied.

43. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

44. Denied.

45. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

46. Denied.

47. Brain Frequency admits that it received correspondence from Plaintiff's counsel but denies the remaining allegations.

## **COUNT I**

### **INFRINGEMENT OF UNITED STATES PATENT NO. 8,926,490**

48. Brain Frequency incorporates by reference each of its answers to each allegation set forth in the preceding paragraphs as if set forth fully herein.

49. Denied.

50. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

51. Denied.

52. Denied.

53. Denied.

54. Denied.

**COUNT II**

**INFRINGEMENT OF UNITED STATES PATENT NO. 10,029,111**

55. Brain Frequency incorporates by reference each of its answers to each allegation set forth in the preceding paragraphs as if set forth fully herein.

56. Denied.

57. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

58. Denied.

59. Denied.

60. Denied.

**COUNT III**

**INFRINGEMENT OF UNITED STATES PATENT NO. 8,465,408**

61. Brain Frequency incorporates by reference each of its answers to each allegation set forth in the preceding paragraphs as if set forth fully herein.

62. Denied.

63. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

64. Denied.

65. Denied.

66. Denied.

67. Denied.

**COUNT IV**

**INFRINGEMENT OF UNITED STATES PATENT NO. 8,870,737**

68. Brain Frequency incorporates by reference each of its answers to each allegation set forth in the preceding paragraphs as if set forth fully herein.

69. Denied.

70. Brain Frequency lacks knowledge or information sufficient to form a belief as to the truth of the allegations in this paragraph and therefore denies them.

71. Denied.

72. Denied.

73. Denied.

### **PLAINTIFF'S PRAYER FOR RELIEF**

74. Brain Frequency denies the allegations contained in the Prayer for Relief and further denies that Wave Neuroscience is entitled to any relief whatsoever against Brain Frequency.

### **AFFIRMATIVE DEFENSES**

Brain Frequency asserts the following affirmative and other defenses to the Second Amended Complaint. In so doing, Brain Frequency does not assume or shift any burden of proof on any issue that is Wave Neuroscience's burden as a matter of law. Brain Frequency reserves the right to amend or supplement these defenses as additional facts become known.

#### **First Affirmative Defense**

##### **Immunity Pursuant 35 U.S.C. 287**

Plaintiff's claims are barred pursuant to 35 U.S.C. §287(c). Brain Frequency qualifies as a "health care entity" and therefore is immune from Wave Neuroscience's claims.

#### **Second Affirmative Defense**

##### **Invalidity/Ineligibility of the Patents-in-Suit**

At least the asserted claims of the Patents-in-Suit are invalid, unenforceable or ineligible for patenting pursuant to one or more of the provisions of Title 35 of the United States Code, including, but not limited to, 35 U.S.C. §§ 101 (subject matter), 102 (anticipation), 103 (obviousness), and/or 112 (indefiniteness, failure to claim the subject matter regarded as the

invention, and failure to satisfy the written description and/or enablement requirements), the rules, regulations, and laws pertaining thereto, and/or under other judicially-created bases for invalidity.

**Third Affirmative Defense**

**Non-Infringement**

Brain Frequency does not infringe and has not infringed, directly, jointly, contributorily, or by inducement, any valid or enforceable claim of the Patents-in-Suit, either literally or under the doctrine of equivalents and has not otherwise committed any acts in violation of 35 U.S.C. § 271.

**Fourth Affirmative Defense**

**Statutory Limitations**

Plaintiff's claims for damages are limited pursuant to the statutory limitations on damages set forth in 35 U.S.C. §§ 286, 287, and/or 288.

**Fifth Affirmative Defense**

**Failure to Mark or Provide Notice**

Upon information and belief, Plaintiff's claims for damages are barred and/or limited, in whole or in part, because Plaintiff, its predecessors-in-interest, and/or its licensees failed to give notice of products that practice the Patents-in-Suit by marking such products or otherwise notifying Brain Frequency of the alleged infringement as required by 35 U.S.C. § 287.

**Sixth Affirmative Defense**

**Prosecution History Estoppel and Disclaimer**

Plaintiff's claims are barred by the doctrine of prosecution history estoppel and prosecution disclaimer based on amendments, statements, admissions, omissions, representations, disclaimers and/or disavowals made during the prosecution of the Patents-in-Suit and other patents that also claim priority to the same parent applications.

**Seventh Affirmative Defense**

**Lack of Standing**

Plaintiff has not established that it holds all right, title and interest in each of the Patents-in-Suit, and absent establishing such interest, Plaintiff lacks standing to assert same.

**Reservation of Additional Defenses**

Brain Frequency's investigation of this matter is ongoing. It reserves all defenses under the Federal Rules of Civil Procedure, the patent laws of the United States, other applicable state or federal laws, and any other defenses, at law or in equity, that may now exist or in the future be available based on discovery and further factual investigation in this case.

## **COUNTERCLAIMS**

Counter-Plaintiff Brain Frequency LLC by and through its undersigned counsel, counterclaims and alleges against Counter-Defendant Wave Neuroscience, Inc. as follows:

### **THE PARTIES**

1. Brain Frequency is a Texas limited liability company with its principal place of business at 26229 N. Cranes Mill Rd., Canyon Lake, TX 78133.
2. On information and belief, Wave Neuroscience, Inc. is a Delaware corporation with a principal place of business at 1601 Dove Street, Suite 205, Newport Beach, California 92660.

### **NATURE OF THE ACTION**

3. Wave Neuroscience claims to be the owner of all rights, titles and interests to U.S Patent No. 8,926,490 (the “490 Patent”), U.S Patent No. 10,029,111 (the “111 Patent”), U.S Patent No. 8,465,408 (the “408 Patent”) and U.S Patent No. Patent No. 8,870,737 (the “737 Patent”) (collectively, the “Patents-in-Suit”) including the rights to sue and recover for infringement.

4. Wave Neuroscience has accused Brain Frequency of infringing one or more claims of each of the Patents-in-Suit. Brain Frequency denies that it infringes any valid or enforceable claim of the Patents-in-Suit and that it is liable for any infringement. Brain Frequency also alleges that the asserted claims of the Patents-in-Suit are invalid for failing to meet the applicable statutory requirements in Part II of Title 35 of the United States Code including, without limitation, 35 U.S.C. §§ 102, 103 and 112, as conditions for patentability.

5. An actual case and controversy exists between Brain Frequency and Wave Neuroscience concerning the non-infringement and invalidity of one or more claims of the Patents-in-Suit, and that controversy is ripe for adjudication.

### **JURISDICTION AND VENUE**

6. There is an actual, justiciable controversy arising under 28 U.S.C. § 2201 regarding the validity and infringement of the Patents-in-Suit. A judicial declaration that the claims of the

Patents-in-Suit are invalid and/or that Brain Frequency has not infringed any claim of the Patents-in-Suit is necessary and appropriate at this time, so that Brain Frequency may ascertain its rights and duties regarding the Patents-in-Suit.

7. This Court has subject matter jurisdiction over these Counterclaims under 28 U.S.C. §§ 2201, 2202, and 1338, as this is a declaratory judgment action arising under the Patent Laws of the United States of America, Title 35 of the United States Code.

8. Wave Neuroscience has submitted to the personal jurisdiction of this Court by virtue of initiating this action against Brain Frequency for alleged infringement of the Patents-in-Suit, thereby giving this Court personal jurisdiction over Wave Neuroscience.

9. Venue is proper over these Counterclaims in this judicial district under 28 U.S.C. § 1391.

## COUNT I

### **DECLARATORY JUDGMENT OF NON-INFRINGEMENT**

10. Brain Frequency incorporates the foregoing paragraphs of its Counterclaims by reference as though fully set forth herein.

11. An actual case or controversy exists between Brain Frequency and Wave Neuroscience as to whether the Patents-in-Suit—the '490 Patent, the '111 Patent, the '408 Patent and the '737 Patent—are or have been infringed by Brain Frequency. Wave Neuroscience has alleged that Brain Frequency has infringed one or more of the claims of the Patents-in-Suit.

12. Brain Frequency does not infringe any valid and enforceable claim of the Patents-in-Suit, either directly, indirectly, contributorily, or otherwise.

13. A judicial declaration is necessary under the circumstances to resolve this controversy.

14. Brain Frequency requests a declaratory judgment that it does not infringe any valid and enforceable claim of the Patents-in-Suit, either directly, indirectly, contributorily, or otherwise.

## COUNT II

DECLARATORY JUDGMENT OF INVALIDITY

15. Brain Frequency incorporates the foregoing paragraphs of its Counterclaims by reference as though fully set forth herein.

16. An actual case or controversy exists between Brain Frequency and Wave Neuroscience as to whether the Patents-in-Suit—the '490 Patent, the '111 Patent, the '408 Patent and the '737 Patent—are valid and enforceable.

17. The claims of the Patents-in-Suit are invalid on the grounds that the purported invention fails to meet the conditions of patentability specified in Title 35 of the United States Code, including, but not limited to, the conditions identified in 35 U.S.C. §§ 101, 102, 103, and/or 112.

18. The subject matter claimed in the Patents-in-Suit are not novel or nonobvious because the material elements of the claimed inventions have long been well known in the art and were described in published patent applications, issued patents, and printed publications before the effective filing date of the claimed inventions.

19. The descriptions of the claimed inventions in the Patents-in-Suit from which the Patents-in-Suit claim priority are not clear enough to inform the industry of the precise scope of the monopoly asserted. One or more claims of the Patents-in-Suit are invalid under 35 U.S.C. § 112 for indefiniteness, non-enablement, and lack of written description support because they recite terms whose meaning would not be reasonably certain to one of ordinary skill in the art and because the specification does not provide an adequate description to convey that the inventor had possession of the claimed invention or to enable one of ordinary skill in the art to practice the claimed invention.

20. A judicial declaration that the Patents-in-Suit are invalid because they fail to satisfy the conditions for patentability specified in Title 35 of the United States Code is necessary and appropriate at this time so that Brain Frequency can ascertain its rights and duties regarding the system and methods Wave Neuroscience accuses of infringing.

**DEMAND FOR JURY TRIAL**

Counterclaimant Brain Frequency hereby demands a trial by jury as to all issues triable by jury.

**PRAYER FOR RELIEF**

WHEREFORE, Counterclaimant Brain Frequency prays for relief with respect to its Answer and Counterclaims as follows:

- A. That Wave Neuroscience take nothing on its Complaint;
- B. For a judicial declaration that Brain Frequency does not infringe any valid claim of the Patents-in-Suit;
- C. For a judicial declaration that each of the asserted claims of the Patents-in-Suit are invalid pursuant to 35 U.S.C. including, without limitation §§ 101, 102, 103 and 112;
- D. For costs of the suit herein;
- E. For a declaration that this case is exceptional under 35 U.S.C. § 285 and awarding attorneys' fees;
- F. For such other relief as the Court deems just and proper.

Dated: November 13, 2023

Respectfully submitted,

By:/s/ John D. Saba

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**ATTORNEYS FOR  
DEFENDANT BRAIN  
FREQUENCY LLC**

**CERTIFICATE OF SERVICE**

I hereby certify that on November 13, 2023, I electronically filed the foregoing with the Clerk of the Court using the CM/ECF system, which will send notification of such filing to all counsel of record.

*/s/ John D. Saba*  
John D. Saba, Jr.